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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,107	09/19/2006	George H. Tagawa	TGI-Shifter-USNP	4215
33549	7590	04/14/2010	EXAMINER	
SANTANGELO LAW OFFICES, P.C. 125 SOUTH HOWES, THIRD FLOOR FORT COLLINS, CO 80521				NGUYEN, SON T
ART UNIT		PAPER NUMBER		
		3643		
			NOTIFICATION DATE	DELIVERY MODE
			04/14/2010	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/599,107	TAGAWA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Son T. Nguyen	3643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 20 July 2009.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-62 is/are pending in the application.  
 4a) Of the above claim(s) 39-62 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-38 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/19/06, 12/6/06</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|   | 6) <input type="checkbox"/> Other: _____ .                        |

## DETAILED ACTION

### ***Election/Restrictions***

1. Applicant's election without traverse of group I, claims 1-38 in the reply filed on 7/20/09 is acknowledged. Claims 39-62 have been withdrawn from consideration due to the claims belonging to a non-elected invention.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. **Claims 1-2,6-29,31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tagawa et al. (2003/0029087A1).**

For claim 1, Tagawa et al. teach a plant punch apparatus, comprising: a first plant punch element (59) that comprises a first plant punch head (18); a plant punch element movement mechanism (57) that is operable to move said first plant punch element through a plurality of spatial points that defines a first plant punch element travel path (not shown but inherently taught in Tagawa et al. due to movement of the punch element in a path so as to reach the plants in the tray); and a frame (51) that supports said plant punch movement mechanism, wherein said plurality of spatial points comprises a first spatial point (the first initial starting out point of the punch element that is off center in the desired quadrant, figs. 26A-26C,35) having a first horizontal distance from a vertical spatial axis (figs. 26A-26C, axis exists through middle of plant similar to

applicant's) defined by a first plant emergent point (figs. 26A-26C, at bottom of the stem), wherein said first plant emergent point is defined by a site at which a first plant emerges from plant growth media in which it is established before it is punched from its container during a plant punch event (see figs. 26A-26C), wherein said first plant emergent point defines a plant emergent point horizontal plane (an imaginary plane horizontal at the plant emergent point in figs. 26A-26C at end of stem), wherein said plurality of spatial points further comprises a second spatial point (as the punch element moves closer to the plant, along the path of travel are spatial points) that: defines a second horizontal plane (an imaginary plane horizontal at the plant emergent point as the punch element moves closer to the plant, esp. figs. 26B-26C) that is below said first spatial point and above said plant emergent point horizontal plane, and has a second horizontal distance (wherever the second spatial point stops, for example, in fig. 26B) from said vertical spatial axis; wherein said first plant punch element travel path intersects and passes through and below said plant emergent point horizontal plane (see fig. 26C) wherein said first plant punch element travel path has a vertical component (any point at the intersection) at its intersection with said plant emergent point horizontal plane.

However, Tagawa et al. are silent about and wherein said first horizontal distance is greater than said second horizontal distance, and wherein said first plant punch element travel path has a horizontal component at some point from said first spatial point to said second spatial point of said first plant punch element travel path. It would have been obvious to one having ordinary skill in the art at the time the invention was

made to have said first horizontal distance is greater than said second horizontal distance, and wherein said first plant punch element travel path has a horizontal component at some point from said first spatial point to said second spatial point of said first plant punch element travel path, in the apparatus of Tagawa et al., depending on the user's preference to have the punch element be moved closer to the plant so as to have a more smaller area of punching around the plant or not. Note that Tagawa et al. disclose that the punch element can be in various quadrant (see fig. 35) and that the seed might be off-center ([0032]), thus, one would assume that having the punch element moves closer or far away from the seed would be obvious.

For claim 2, Tagawa et al. disclose wherein said plant punch element movement mechanism is operable to move said first plant punch element to generate a plant punch cycle (the path of the punch element as it moves towards the plant as shown in figs. 26A-26C).

For claim 6, Tagawa et al. disclose wherein said plant punch element movement mechanism is manually operable ([0096][0098]).

For claim 7, Tagawa et al. disclose wherein said plant punch element movement mechanism is manually operable only in part ([0098]).

For claim 8, Tagawa et al. disclose wherein said plant punch element movement mechanism is automatically operable ([0096][0099]).

For claim 9, Tagawa et al. are silent about wherein said plant punch element movement mechanism is automatically operable only in part. It would have been obvious to one having ordinary skill in the art at the time the invention was made to

have the plant punch element movement mechanism of Tagawa et al. be automatically operable only in part, depending on the user's preference to do so for the desired intended function.

For claim 10, Tagawa et al. disclose wherein said first plant punch element travel path passes below said plant emergent point horizontal plane substantially at least by that amount necessary to punch said plant from said container (see fig. 26C).

For claim 11, Tagawa et al. disclose wherein said first plant punch element travel path passes below said plant emergent point horizontal plane at least by that amount necessary to transplant said first plant into a container established below said plant emergent point horizontal plane (see fig. 26C).

For claim 12, Tagawa et al. disclose additional plant punch elements that each comprise a plant punch head, wherein said plant punch element movement mechanism is also operable to move said additional plant punch elements through additional, respective plant punch element travel paths to punch additional, respective plants, wherein said additional, respective plant punch element travel paths are each spatially oriented relative to their additional, respective plant as said first plant punch element travel path is spatially oriented relative to said first plant, but also wherein said additional, respective plant punch element travel paths are horizontally offset from said first plant punch element travel path. See figs. 14-24, there are a plurality of punch elements.

For claim 13, Tagawa et al. disclose wherein said first plant punch element and said additional plant punch elements are established in a row by column pattern (see

figs. 14-24).

For claim 14, Tagawa et al. disclose said first plant (see figs. 26A-26C).

For claim 15, Tagawa et al. disclose additional plants that are punched by additional plant punch elements (see figs. 14-24,26A-26C).

For claim 16, Tagawa et al. disclose additional plant punch elements, wherein said plant punch element movement mechanism is also operable to move said additional plant punch elements through additional, respective plant punch element travel paths that mimic said first plant punch element travel path in parallel fashion (see figs. 14-24).

For claim 17, Tagawa et al. disclose wherein said first plant punch element and said additional plant punch elements are established in a row by column pattern (see figs. 14-24).

For claim 18, Tagawa et al. disclose a  $n^{\text{th}}$  plant punch element that said plant punch element movement mechanism is operable to move through a plurality of spatial points that defines a  $n^{\text{th}}$  plant punch element travel path (see figs. 14-24,26A-26C, and explanation in the above claims, Tagawa et al. disclose more than one punch elements for a plurality of plants).

For claim 19, Tagawa et al. disclose wherein said  $n^{\text{th}}$  plant punch element travel path is horizontally offset from said first plant punch element travel path (since they are placed parallel and separated from each other, see figs. 14-24).

For claim 20, Tagawa et al. disclose wherein respective points on each said first plant punch element travel path and said  $n^{\text{th}}$  plant punch element travel path are

horizontally equidistant from each other (since they are placed parallel and separated from each other, see figs. 14-24).

For claim 21, Tagawa et al. disclose wherein said plurality of spatial points comprises a third spatial point (any point along the travel path) that is substantially co-incident with said plant emergent point.

For claim 22, Tagawa et al. disclose wherein said first plant punch element travel path is substantially vertical when it passes through said lower horizontal plane (see figs. 26B-26C).

For claim 23, Tagawa et al. disclose wherein said first spatial point, said second spatial point and said first plant emergent point are substantially within the same vertical plane (see figs. 26A-26C).

For claim 24, Tagawa et al. disclose wherein an upper portion of said first plant punch element travel path that is between said first spatial point and said second spatial point of said first plant punch element travel path is substantially vertical (see figs. 26A-26C).

For claim 25, Tagawa et al. disclose wherein said plant punch element travels along said first plant punch element travel path from said first spatial point of said first plant punch element travel path, then through said second spatial point of said first plant punch element travel path, then through said plant emergent point horizontal plane (see figs. 26A-26C).

For claim 26, Tagawa et al. disclose wherein, after traveling through said plant emergent point horizontal plane, said first plant punch element reaches a lowest

position, and then returns to said first spatial point of said first plant punch element travel path through a first plant punch element return travel path that is part of said first plant punch element travel path (see figs. 26A-26C in order to pick up the punch for transplanting it to container).

For claim 27, Tagawa et al. disclose wherein said first plant punch element return travel path comprises said second spatial point and said first spatial point of said first plant punch element travel path (see figs. 26A-26C in order to pick up the punch for transplanting it to container).

For claim 28, Tagawa et al. disclose wherein at least half of said first plant punch element return travel path is along said vertical spatial axis (see figs. 26A-26C, it is believed that Tagawa et al. teach all, which constitute at least 1/2 of the punch element returning to the travel path upon punching the plant and transplanting to the containers).

For claim 29, Tagawa et al. disclose wherein said first plant punch element reaches its highest point at said first spatial point of said first plant punch element travel path (the initial point starting out, same path going back).

For claim 31, Tagawa et al. disclose wherein said plant punch movement mechanism is operable to move said first plant punch element through said vertical component of said first plant punch element travel path upon application of a manual force to said plant punch movement mechanism (see figs. 14-24 and [0096][0098]).

For claim 32, Tagawa et al. disclose wherein said first plant punch element further comprises a first plant punch body ([0095]).

For claim 33, Tagawa et al. disclose wherein an upper portion of said first plant

has plant punch sensitive vegetative parts that define a sensitive vegetation profile in a plane defined by said first spatial point and said plant emergent point, and wherein said first plant punch element travel path is outside one side of said sensitive vegetation profile (see [0030][0032][0099]).

**4. Claims 3-5,30,34-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tagawa et al. as applied to claims 1-2 above, and further in view of Bouldin et al. (5911631).**

For claim 3, Tagawa et al. teach a vertical plant punch movement mechanism (57) but not a horizontal plant punch movement mechanism.

Bouldin et al. teach a plant punch apparatus comprising punch movement mechanism having a vertical plant punch movement mechanism and a horizontal plant punch movement mechanism (col. 3,lines 54-60). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a horizontal plant punch movement mechanism as taught by Bouldin et al. in the punch element of Tagawa et al. in order to allow horizontal movement so as to get closer to the plant depending on the area desired for the punch.

For claim 4, Tagawa et al. as modified by Bouldin et al. further teach wherein said vertical plant punch movement mechanism is manually operable ([0096][0098] of Tagawa et al.).

For claim 5, Tagawa et al. as modified by Bouldin et al. further teach wherein said horizontal plant punch movement mechanism is automatically operable (col. 4, lines 66-67, col. 5,lines 57-65, col. 6,lines 10-20, the whole system of Bouldin et al. is

Art Unit: 3643

automated).

For claim 30, Tagawa et al. as modified by Bouldin et al. further teach wherein said plant punch movement mechanism is operable to move said first plant punch element through said horizontal component of said first plant punch element travel path through pneumatics (from Bouldin's teaching of horizontal plant punch movement mechanism).

For claim 34, Tagawa et al. as modified by Bouldin et al. further teach wherein said first plant punch element initiates a horizontal motion at a horizontal motion initiation point located at some point between said first spatial point and said second spatial point and along said first plant punch element travel path (from Bouldin's teaching of horizontal plant punch movement mechanism).

For claim 35, Tagawa et al. as modified by Bouldin et al. further teach wherein said horizontal motion initiation point has a horizontal motion initiation height above said plant emergent point horizontal plane, and wherein said horizontal motion initiation height is adjustable (from Bouldin's teaching of horizontal plant punch movement mechanism).

For claim 36, Tagawa et al. as modified by Bouldin et al. further teach wherein said horizontal motion initiation point has a horizontal motion initiation width that is equal to a horizontal distance of said horizontal motion initiation point from said vertical spatial axis, and wherein said horizontal motion initiation width is adjustable (from Bouldin's teaching of horizontal plant punch movement mechanism).

For claim 37, Tagawa et al. as modified by Bouldin et al. further teach wherein

Art Unit: 3643

said horizontal component of said first plant punch element has a horizontal motion initiation point between said first spatial point and said second spatial point, and wherein said horizontal motion initiation point is spatially adjustable (from Bouldin's teaching of horizontal plant punch movement mechanism).

For claim 38, Tagawa et al. as modified by Bouldin et al. further teach wherein said plant punch element movement mechanism is operable to effect a horizontal travel distance of said first plant punch element, and wherein said horizontal travel distance is adjustable (from Bouldin's teaching of horizontal plant punch movement mechanism).

***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son T. Nguyen whose telephone number is 571-272-6889. The examiner can normally be reached on Mon-Thu from 10:00am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter M. Poon can be reached on 571-272-6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Son T. Nguyen/  
Primary Examiner, Art Unit 3643